

Market Analysis
Program (MAP)

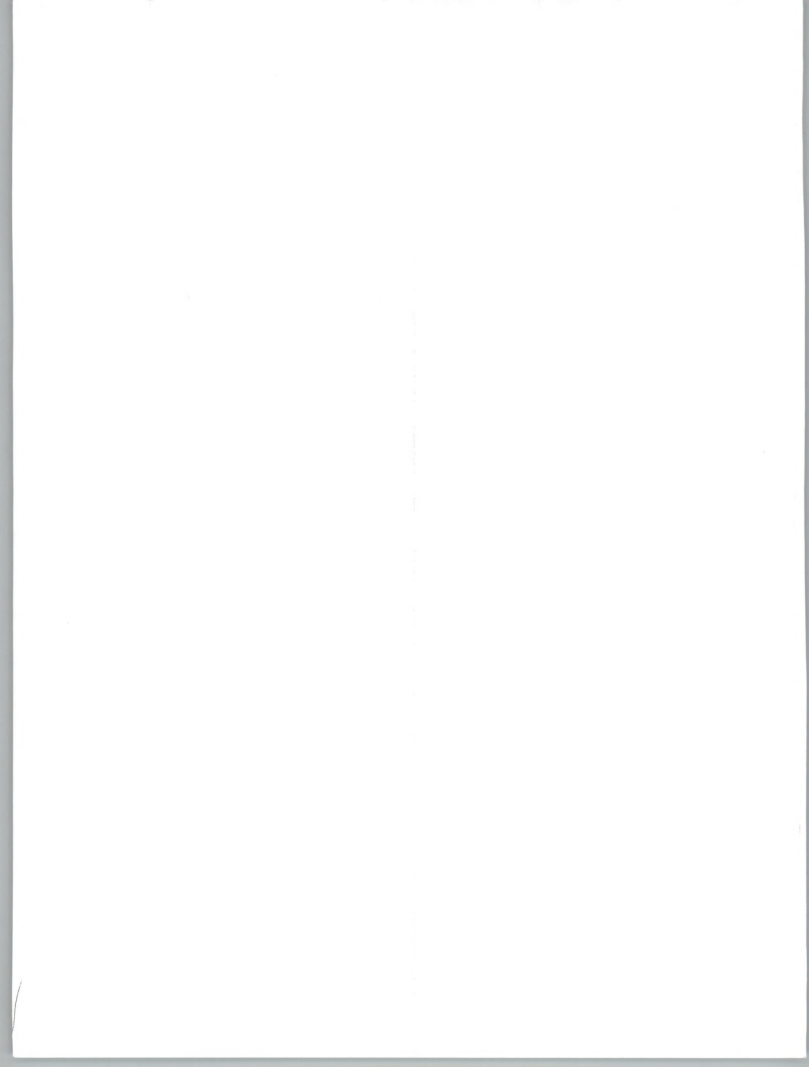
**Industry Sector/
Cross-Industry
Markets
1989-1994**

Appendix B:
Forecast Data
Base



INPUT®

1280 Villa Street, Mountain View, CA 94041 (415) 961-3300



DECEMBER 1989

INDUSTRY SECTOR/CROSS-
INDUSTRY MARKETS
1989-1994

APPENDIX B:
FORECAST DATA BASE

Published by
INPUT
1280 Villa Street
Mountain View, CA 94041-1194
U.S.A.

Market Analysis Program (MAP)

***Industry Sector/Cross-Industry Markets,
1989-1994***

Appendix B: Forecast Data Base

Copyright ©1990 by INPUT. All rights reserved.
Printed in the United States of America.
No part of this publication may be reproduced or
distributed in any form or by any means, or stored
in a data base or retrieval system, without the prior
written permission of the publisher.

Exhibits

-1 Information Services Industry—User Expenditure Forecast by Delivery Mode, 1989-1994	V-B-1
-2 Information Services Industry—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-2
-3 Processing Services—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-3
-4 Transaction Processing Services—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-4
-5 Systems Operations Processing Services—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-5
-6 Network Services—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-6
-7 Network Applications—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-7
-8 Electronic Information—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-8
-9 Software—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-9
-10 Mainframe Software—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-10
-11 Minicomputer Software—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-11
-12 Workstation/PC Software—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-12
-13 Systems Software—User Expenditure Forecast by Software Type, 1989-1994	V-B-13
-14 Turnkey Systems—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-14
-15 Systems Integration—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-15
-16 Professional Services—User Expenditure Forecast by Industry Sector, 1989-1994	V-B-16
-17 Discrete Manufacturing Sector—User Expenditure Forecast by Delivery Mode, 1989-1994	V-B-17
-18 Process Manufacturing Sector—User Expenditure Forecast by Delivery Mode, 1989-1994	V-B-18

the 1990s, the number of people with a diagnosis of schizophrenia has increased in the United Kingdom (Meltzer 1997). The prevalence of schizophrenia in the United Kingdom is estimated to be 1.2% (Meltzer 1997).

There is a growing awareness of the need to improve the lives of people with mental health problems. The United Kingdom has a number of government departments and agencies that are responsible for the care of people with mental health problems. The Department of Health is responsible for the overall policy and strategy for mental health care. The Department of Social Security is responsible for the provision of social security benefits to people with mental health problems. The Department of the Environment is responsible for the provision of housing and other services to people with mental health problems. The Department of Transport is responsible for the provision of transport services to people with mental health problems. The Department of Education is responsible for the provision of education services to people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

The Department of Health has a number of initiatives to improve the lives of people with mental health problems. The Department of Social Security has a number of initiatives to improve the lives of people with mental health problems. The Department of the Environment has a number of initiatives to improve the lives of people with mental health problems. The Department of Transport has a number of initiatives to improve the lives of people with mental health problems. The Department of Education has a number of initiatives to improve the lives of people with mental health problems.

Exhibits

- 19 Transportation Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-19
- 20 Utilities Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-20
- 21 Telecommunications Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-21
- 22 Wholesale Distribution Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-22
- 23 Retail Distribution Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-23
- 24 Banking and Finance Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-24
- 25 Insurance Sector—User Expenditure Forecast by Delivery Mode, 1989 - 1994 V-B-25
- 26 Medical Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-26
- 27 Education Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-27
- 28 Services Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-28
- 29 Federal Government Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-29
- 30 State and Local Government Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-30
- 31 Other Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-31
- 32 Accounting Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-32
- 33 Education and Training Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-33
- 34 Engineering and Scientific Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-34
- 35 Human Resources Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989 - 1994 V-B-35
- 36 Office Systems Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-36
- 37 Planning and Analysis Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-37
- 38 Other Cross-Industry Sector—User Expenditure Forecast by Delivery Mode, 1989-1994 V-B-38

EXHIBIT B-1

**Information Services Industry
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Information Services Industry	78,700	17	92,165	105,565	121,345	139,700	161,600	187,620	15
Processing Services	18,125	12	20,329	22,668	25,336	28,376	31,846	35,835	12
Transaction Processing Services	12,030	11	13,347	14,630	16,062	17,656	19,433	21,439	10
Utility Processing Services	900	-5	855	906	961	1,018	1,079	1,144	6
Other Processing Services	1,560	15	1,794	2,027	2,291	2,589	2,925	3,305	13
Systems Operations	3,635	19	4,333	5,105	6,023	7,113	8,409	9,946	18
Network/Electronic Information Services	5,700	22	6,973	8,378	10,077	12,098	14,537	17,448	20
Electronic Information Services	4,460	22	5,457	6,538	7,830	9,336	11,117	13,186	19
- On-line Data Bases	4,010	22	4,897	5,828	6,930	8,216	9,727	11,476	19
- News	450	25	560	710	900	1,120	1,390	1,710	25
Network Applications	1,240	22	1,516	1,840	2,247	2,763	3,420	4,263	23
- Value-added Networks	690	12	773	912	1,076	1,270	1,498	1,768	18
- EDI*	190	48	282	414	570	750	990	1,350	37
- Electronic Mail	360	28	462	514	601	743	932	1,145	20
Application Software Products	13,335	20	15,998	18,221	20,814	23,870	27,479	31,843	15
Mainframe	4,400	11	4,869	5,216	5,592	6,005	6,447	6,932	7
Minicomputer	4,310	15	4,938	5,485	6,079	6,742	7,486	8,361	11
Workstation/PC	4,625	34	6,191	7,520	9,143	11,123	13,546	16,550	22
Systems Software	12,095	22	14,811	17,447	20,601	24,386	28,945	34,455	18
Mainframe	5,965	15	6,858	7,811	8,898	10,136	11,547	13,155	14
Minicomputer	4,050	19	4,804	5,624	6,586	7,717	9,046	10,610	17
Workstation/PC	2,080	51	3,149	4,012	5,117	6,533	8,352	10,690	28
Turnkey Systems	9,620	10	10,705	11,675	12,790	13,980	15,335	16,820	9
Equipment	5,195	9	5,665	6,020	6,395	6,850	7,360	7,790	7
Packaged Software	2,120	11	2,355	2,615	2,940	3,280	3,670	4,110	12
Custom Software	770	25	965	1,140	1,330	1,490	1,685	2,000	16
Professional Services	1,535	12	1,720	1,900	2,125	2,360	2,620	2,920	11
Systems Integration	4,801	21	5,797	7,157	8,878	10,920	13,680	17,165	24
Equipment	2,126	19	2,523	3,055	3,730	4,480	5,490	6,890	22
Packaged Software	425	18	500	600	720	865	1,060	1,320	21
Other Services	325	11	361	408	460	520	590	675	13
Professional Services	1,925	25	2,413	3,094	3,968	5,055	6,540	8,280	28
Professional Services Consulting	15,020	17	17,558	20,013	22,829	26,062	29,780	34,051	14
Education & Training	3,018	20	3,622	4,273	5,043	5,950	7,021	8,285	18
Software Development	1,819	18	2,146	2,447	2,789	3,180	3,625	4,133	14
Systems Operations	8,780	16	10,185	11,509	13,005	14,696	16,606	18,765	13
	1,403	14	1,605	1,784	1,992	2,236	2,527	2,869	12

*Includes software and professional services related to EDI.

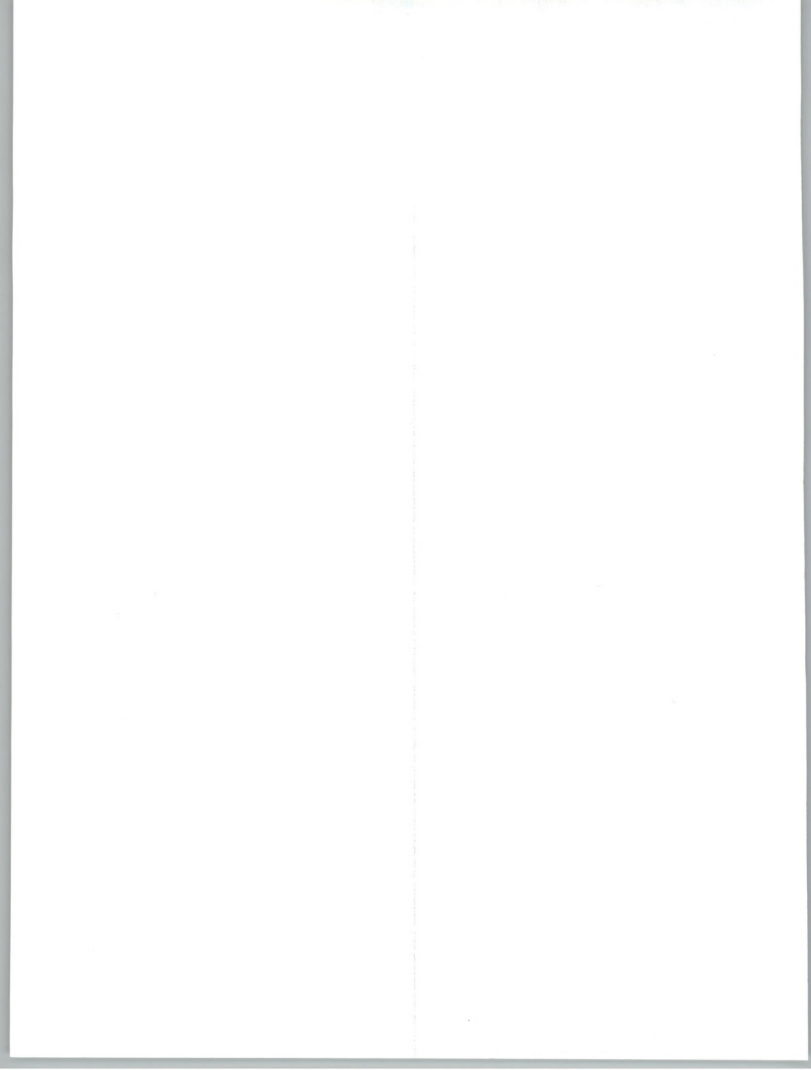


EXHIBIT B-2

**Information Services Industry
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Industry Sector	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Information Services Industry	78,700	17	92,165	105,565	121,345	139,700	161,600	187,620	15
Discrete Manufacturing	7,930	17	9,312	10,718	12,409	14,298	16,742	19,632	16
Process Manufacturing	3,710	21	4,485	5,150	5,930	6,835	7,880	9,100	15
Transportation	2,370	15	2,720	3,121	3,580	4,119	4,741	5,460	15
Utilities	955	17	1,113	1,290	1,519	1,778	2,100	2,484	17
Telecommunications	1,830	19	2,172	2,525	2,937	3,421	3,989	4,723	17
Wholesale Distribution	1,615	15	1,858	2,126	2,423	2,792	3,224	3,734	15
Retail Distribution	1,405	19	1,670	1,920	2,231	2,596	3,069	3,653	17
Banking & Finance	8,930	18	10,548	12,239	14,177	16,453	19,172	22,422	16
Insurance	3,110	17	3,640	4,214	4,891	5,672	6,620	7,727	16
Medical	3,275	16	3,808	4,286	4,840	5,488	6,240	7,125	13
Education	1,150	12	1,288	1,431	1,606	1,793	2,007	2,262	12
Services	2,000	16	2,318	2,613	2,956	3,358	3,823	4,376	14
Federal Government	7,415	13	8,384	9,339	10,450	11,717	13,165	14,905	12
State & Local Government	3,280	16	3,803	4,428	5,180	6,055	7,107	8,359	17
Other Industry Sector	1,516	12	1,699	1,902	2,148	2,424	2,736	3,110	13
Total Industry Sectors	50,491	16	58,820	67,302	77,276	88,798	102,616	119,072	15
Cross-Industry Sector									
Accounting	2,905	12	3,264	3,513	3,790	4,112	4,480	4,904	8
Education & Training	380	14	435	472	514	563	620	686	10
Engineering & Scientific	845	18	1,001	1,134	1,289	1,473	1,681	1,934	14
Human Resources	2,065	13	2,325	2,544	2,794	3,070	3,392	3,764	10
Office Systems	2,130	19	2,538	2,918	3,368	3,894	4,515	5,248	16
Planning & Analysis	1,980	18	2,336	2,597	2,901	3,254	3,665	4,143	12
Other Cross-Industry Sector	1,130	14	1,289	1,405	1,536	1,685	1,848	2,033	10
Total Cross-Industry Sectors	11,435	15	13,188	14,583	16,192	18,051	20,201	22,711	11
Other									
Cross-Industry Data Bases	2,220	21	2,695	3,300	4,025	4,855	5,830	6,935	21
Utility Processing Services	900	-5	855	906	961	1,018	1,079	1,144	6
Other Processing Services	1,560	15	1,794	2,027	2,291	2,589	2,925	3,305	13
System Software	12,095	22	14,811	17,447	20,601	24,386	28,945	34,455	18
Total Other	16,775	20	20,155	23,680	27,877	32,849	38,780	45,840	18

1. The first part of the paper is devoted to the study of the properties of the function $f(x)$ defined by the equation $f(x) = \sum_{n=0}^{\infty} \frac{f_n(x)}{n!}$, where $f_n(x)$ are the solutions of the system of differential equations $f_n'(x) = -f_n(x) + f_{n-1}(x)$, $f_0(x) = 1$. It is shown that the function $f(x)$ is analytic in the whole plane and that it satisfies the equation $f(x) = e^{-x} \int_0^{\infty} e^{xt} f(t) dt$.

2. In the second part of the paper the properties of the function $f(x)$ are studied in more detail. It is shown that the function $f(x)$ is a solution of the equation $f(x) = e^{-x} \int_0^{\infty} e^{xt} f(t) dt$ and that it satisfies the inequality $f(x) \leq e^{-x}$ for all x .

3. In the third part of the paper the properties of the function $f(x)$ are studied in more detail. It is shown that the function $f(x)$ is a solution of the equation $f(x) = e^{-x} \int_0^{\infty} e^{xt} f(t) dt$ and that it satisfies the inequality $f(x) \leq e^{-x}$ for all x .

EXHIBIT B-3

**Processing Services
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Processing Services	18,125	12	20,325	22,265	25,339	28,347	31,845	35,836	12
Discrete Manufacturing	805	8	865	530	1,010	1,060	1,180	1,290	8
Process Manufacturing	810	25	1,015	1,120	1,235	1,370	1,515	1,685	11
Transportation	1,560	12	1,750	1,994	2,272	2,588	2,950	3,361	14
Utilities	90	11	100	110	121	134	149	165	11
Telecommunications	560	17	656	755	869	1,000	1,151	1,324	15
Wholesale Distribution	330	8	356	395	438	487	543	605	11
Retail Distribution	135	14	154	172	192	215	242	272	12
Banking & Finance	3,790	16	4,395	5,008	5,709	6,508	7,420	8,462	14
Insurance	825	13	929	1,096	1,296	1,536	1,823	2,170	18
Medical	975	9	1,110	1,227	1,361	1,510	1,685	1,880	8
Education	230	3	238	253	270	288	307	328	7
Services	680	13	770	825	885	949	1,018	1,093	7
Federal Government	460	9	499	542	591	649	717	797	10
State & Local Government	740	13	839	1,006	1,210	1,456	1,756	2,121	20
Other Industry Sector	595	10	655	723	799	883	976	1,080	11
Total Industry Sectors	12,585	14	14,330	15,756	18,258	20,636	23,432	26,633	13
Cross-Industry Sector									
Accounting	990	4	1,030	1,060	1,092	1,125	1,159	1,194	3
Education & Training	90	3	93	95	96	98	100	102	2
Engineering & Scientific	115	3	118	123	128	133	139	144	4
Human Resources	1,195	21	1,360	1,525	1,710	1,910	2,135	2,395	12
Office Systems	40	-2	39	38	36	35	33	32	-4
Planning & Analysis	220	-2	216	205	195	185	176	167	-5
Other Cross-Industry Sector	430	14	490	529	572	618	667	720	8
Total Cross-Industry Sectors	3,080	9	3,346	3,575	3,829	4,104	4,409	4,754	7
Other									
Utility Processing Services	900	-5	855	906	961	1,018	1,079	1,144	6
Other Processing Services	1,560	15	1,794	2,027	2,291	2,589	2,925	3,305	13
Total Other	2,460	8	2,649	2,934	3,251	3,607	4,004	4,450	11

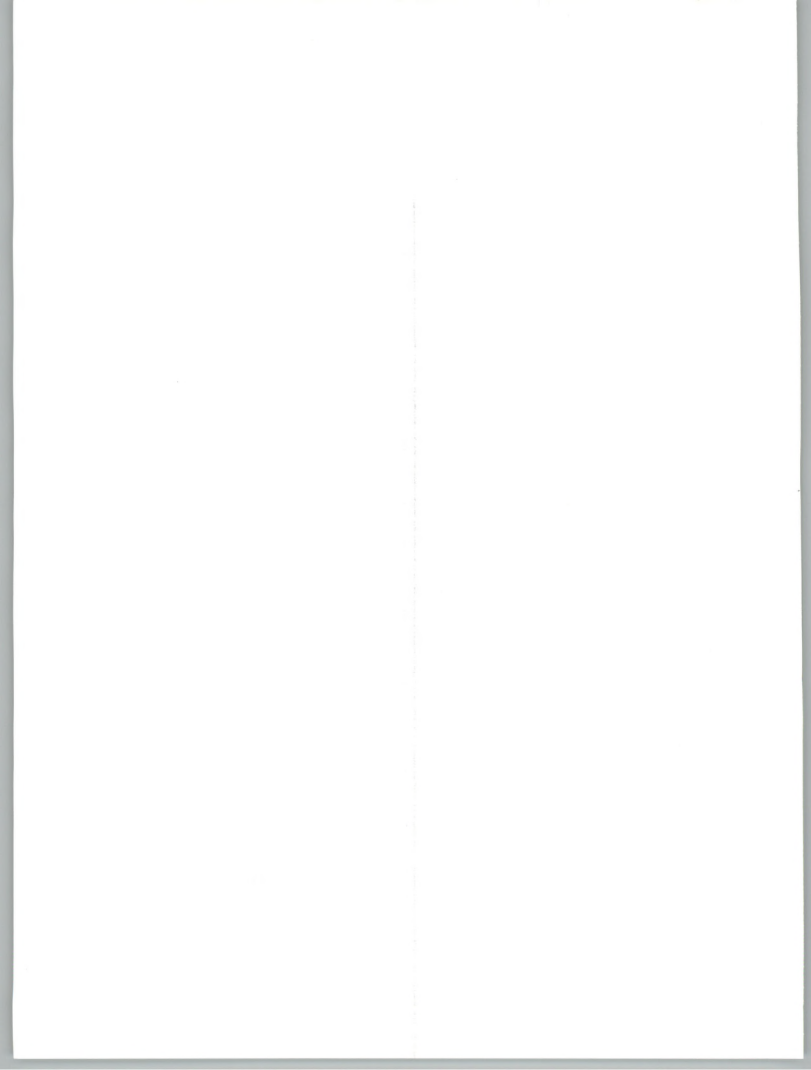


EXHIBIT B-4

**Transaction Processing Services
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Transaction Processing Services	12,030	11	13,347	14,630	16,062	17,656	19,433	21,439	10
Discrete Manufacturing	705	6	750	795	845	895	945	1,005	6
Process Manufacturing	610	5	640	680	720	765	810	860	6
Transportation	1,520	12	1,702	1,941	2,212	2,522	2,875	3,278	14
Utilities	60	10	66	71	77	83	90	97	8
Telecommunications	525	16	609	700	805	926	1,065	1,225	15
Retail Distribution	120	15	138	152	167	184	202	222	10
Wholesale Distribution	270	7	289	315	343	374	408	445	9
Banking & Finance	2,590	15	2,979	3,366	3,803	4,298	4,856	5,488	13
Insurance	280	12	314	345	379	417	459	505	10
Medical	425	6	476	500	525	551	579	608	5
Education	160	3	165	173	182	191	200	210	5
Services	670	13	757	810	867	927	992	1,062	7
Federal Government	245	2	250	250	250	250	250	250	0
State & Local Government	190	20	228	255	286	320	359	402	12
Other Industry Sector	580	10	638	702	772	849	934	1,028	10
Total Industry Sectors	8,950	12	10,001	11,055	12,233	13,552	15,024	16,685	11
Cross-Industry Sector									
Accounting	990	4	1,030	1,060	1,092	1,125	1,159	1,194	3
Education & Training	90	3	93	95	96	98	100	102	2
Engineering & Scientific	115	3	118	123	128	133	139	144	4
Human Resources	1,195	14	1,360	1,525	1,710	1,910	2,135	2,395	12
Office Systems	40	-2	39	38	36	35	33	32	-4
Planning & Analysis	220	-2	216	205	195	185	176	167	-5
Other Cross-Industry Sector	430	14	490	529	572	618	667	720	8
Total Cross-Industry Sectors	3,080	9	3,346	3,575	3,829	4,104	4,409	4,754	7

EXHIBIT B-5

**Systems Operations Processing Services
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Systems Operations	3,635	19	4,333	5,105	6,023	7,113	8,408	9,946	18
Discrete Manufacturing	100	14	114	137	164	197	236	284	20
Process Manufacturing	200	89	377	442	517	604	707	827	17
Transportation	40	18	47	53	59	66	74	83	12
Utilities	30	12	34	39	44	51	59	68	15
Telecommunications	35	35	47	55	64	74	86	99	16
Wholesale Distribution	60	12	67	80	95	113	135	160	19
Retail Distribution	15	8	16	20	25	32	40	49	25
Banking & Finance	1,200	18	1,416	1,643	1,905	2,210	2,564	2,974	16
Insurance	545	13	616	751	917	1,118	1,364	1,664	22
Medical	550	15	635	725	835	960	1,105	1,270	15
Education	70	4	73	80	88	97	107	117	10
Services	10	25	13	15	18	22	26	31	19
Federal Government	215	16	249	292	341	399	467	547	17
State & Local Government	550	11	611	751	924	1,136	1,397	1,719	23
Other Industry Sector	15	15	17	22	27	34	42	53	26

EXHIBIT B-6

**Network Services
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Network/Electronic Information Services	5,700	22	6,974	8,377	10,077	12,099	14,538	17,449	20
Discrete Manufacturing	45	22	55	70	89	115	148	191	28
Process Manufacturing	500	19	595	697	819	965	1,141	1,355	18
Transportation	110	28	141	179	228	290	369	470	27
Utilities	70	21	85	102	123	149	180	217	21
Telecommunications	40	28	51	66	85	109	141	181	29
Wholesale Distribution	140	27	178	228	294	380	493	641	29
Retail Distribution	95	32	125	154	190	235	290	358	23
Banking & Finance	470	33	627	781	976	1,223	1,537	1,938	25
Insurance	160	19	190	223	263	310	367	434	18
Medical	395	24	489	580	690	822	980	1,172	18
Education	115	15	132	155	181	212	248	291	17
Services	380	18	448	544	661	802	975	1,185	21
Federal Government	850	21	1,032	1,135	1,249	1,376	1,516	1,673	10
State & Local Government	50	27	64	78	97	120	149	186	24
Other Industry Sector	60	12	67	85	107	136	174	222	27
Total Industry Sectors	3,480	23	4,279	5,077	6,052	7,244	8,708	10,514	20
Cross-Industry Data Bases									
Securities	650	17	760	910	1,085	1,280	1,500	1,740	18
Credit	800	23	985	1,200	1,450	1,740	2,075	2,450	20
Text/Bibliographic	160	25	200	250	310	380	465	565	23
News	450	25	560	710	900	1,120	1,390	1,710	25
Economic/Other	160	20	190	230	280	335	400	470	20
Total Cross-Industry Data Bases	2,220	21	2,695	3,300	4,025	4,855	5,830	6,935	21

EXHIBIT B-7

**Network Applications
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Network Application	1,240	22	1,516	1,840	2,247	2,763	3,420	4,263	23
Discrete Manufacturing	20	25	25	34	46	63	86	116	36
Process Manufacturing	50	28	64	86	117	157	213	287	35
Transportation	20	33	27	35	46	61	81	107	32
Utilities	30	22	37	45	56	70	87	107	24
Telecommunications	10	20	12	15	19	23	29	37	25
Wholesale Distribution	100	30	130	173	230	306	407	541	33
Retail Distribution	25	20	30	39	51	66	86	111	30
Banking & Finance	70	30	91	127	178	250	350	489	40
Insurance	40	24	50	62	77	97	121	151	25
Medical	145	25	181	227	283	354	443	553	25
Education	45	15	52	62	75	89	107	129	20
Services	10	17	12	16	21	29	39	52	35
Federal Government	610	20	732	820	918	1,028	1,152	1,290	12
State & Local Government	25	22	30	40	52	67	87	113	30
Other Industry Sector	40	11	44	59	77	102	135	178	32

EXHIBIT B-8

**Electronic Information
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Electronic Information Services	4,460	22	5,457	6,538	7,830	9,336	11,117	13,186	19
Discrete Manufacturing	25	20	30	36	43	52	62	75	20
Process Manufacturing	450	18	531	611	702	808	929	1,068	15
Transportation	90	27	114	144	181	229	288	363	26
Utilities	40	20	48	57	67	79	93	110	18
Telecommunications	30	30	39	51	66	86	111	145	30
Wholesale Distribution	40	19	48	55	64	74	86	100	16
Retail Distribution	70	36	95	115	139	169	204	247	21
Banking & Finance	400	34	536	654	798	973	1,187	1,449	22
Insurance	120	17	140	161	186	214	246	282	15
Medical	250	23	308	354	407	468	538	618	15
Education	70	15	81	93	106	122	141	162	15
Services	370	18	437	528	639	773	936	1,132	21
Federal Government	240	25	300	315	331	347	365	383	5
State & Local Government	25	32	33	39	45	53	62	72	17
Other Industry Sector	20	15	23	26	30	34	39	44	14
Total Industry Sectors	2,240	23	2,762	3,238	3,805	4,480	5,287	6,251	18
Cross-Industry Data Bases									
Securities	650	17	760	910	1,085	1,280	1,500	1,740	18
Credit	800	23	985	1,200	1,450	1,740	2,075	2,450	20
Text/Bibliographic	160	25	200	250	310	380	465	565	23
News	450	25	560	710	900	1,120	1,390	1,710	25
Economic/Other	160	20	190	230	280	335	400	470	20
Total Cross-Industry Data Bases	2,220	21	2,695	3,300	4,025	4,855	5,830	6,935	21

EXHIBIT B-9

Software
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Software Industry	25,435	21	30,807	35,667	41,416	48,258	56,423	66,297	17
Application Software									
Discrete Manufacturing	1,380	16	1,597	1,828	2,099	2,418	2,795	3,241	15
Process Manufacturing	405	21	470	550	625	720	830	965	16
Transportation	260	26	327	376	433	501	581	678	16
Utilities	180	21	218	249	284	324	371	426	14
Telecommunications	155	20	186	220	260	309	368	438	19
Wholesale Distribution	390	16	453	516	591	681	789	920	15
Retail Distribution	225	24	279	320	368	424	488	563	15
Banking & Finance	1,750	18	2,069	2,363	2,703	3,098	3,558	4,095	15
Insurance	570	24	706	806	923	1,061	1,224	1,416	15
Medical	670	18	793	896	1,017	1,160	1,331	1,535	14
Education	505	13	572	637	709	791	883	987	12
Services	340	23	419	485	565	660	774	913	17
Federal Government	385	22	469	546	640	753	888	1,119	19
State & Local Government	90	29	116	132	150	172	198	229	15
Other Industry Sector	160	20	193	218	248	283	325	375	14
Total Industry Sectors	7,465	19	8,867	10,142	11,615	13,355	15,403	17,920	15
Cross-Industry Sector									
Accounting	1,515	20	1,825	2,028	2,263	2,537	2,856	3,230	12
Education & Training	140	30	182	210	244	284	331	388	16
Engineering & Scientific	400	27	507	591	691	810	953	1,125	17
Human Resources	760	11	845	894	954	1,025	1,112	1,219	8
Office Systems	1,240	24	1,539	1,815	2,147	2,544	3,022	3,595	18
Planning and Analysis	1,490	23	1,837	2,100	2,406	2,759	3,170	3,647	15
Other Cross-Industry Sector	330	19	394	440	495	558	631	718	13
Total Cross-Industry Sectors	5,875	21	7,129	8,078	9,200	10,517	12,075	13,922	14
Total Application Software	13,340	20	15,996	18,220	20,815	23,872	27,478	31,842	15
Systems Software									
Application Development Tools	4,650	27	5,920	7,031	8,367	9,978	11,922	14,273	19
Systems Control Data Center Management	4,985	14	5,693	6,635	7,745	9,058	10,614	12,464	17
	2,460	30	3,198	3,781	4,488	5,351	6,409	7,719	19
Total Systems Software	12,095	22	14,811	17,447	20,601	24,386	28,945	34,455	18

EXHIBIT B-10

**Mainframe Software
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Mainframe Software Industry	10,365	13	11,727	13,027	14,490	16,141	17,994	20,087	11
Application Software									
Discrete Manufacturing	310	10	341	372	405	442	481	525	9
Process Manufacturing	70	10	75	80	85	95	100	110	8
Transportation	110	17	129	140	153	167	182	198	9
Utilities	40	14	46	49	53	57	62	67	8
Telecommunications	95	18	112	129	148	170	196	225	15
Wholesale Distribution	210	10	231	247	264	283	303	324	7
Retail Distribution	40	15	46	51	56	61	67	74	10
Banking & Finance	850	10	935	1,029	1,131	1,244	1,369	1,506	10
Insurance	260	13	294	317	343	370	400	432	8
Medical	290	11	322	344	369	394	422	451	7
Education	70	4	73	75	77	80	82	84	3
Services	90	10	99	105	111	118	125	132	6
Federal Government	105	11	117	126	136	147	159	171	8
State & Local Government	40	24	50	53	57	61	65	70	7
Other Industry Sector	40	19	48	51	56	60	65	70	8
Total Industry Sectors	2,620	11	2,916	3,168	3,444	3,749	4,077	4,440	9
Cross-Industry Sector									
Accounting	630	10	693	728	764	802	842	884	5
Education & Training	30	22	37	39	42	45	48	51	7
Engineering & Scientific	110	14	125	135	146	158	171	184	8
Human Resources	340	5	357	353	350	346	343	340	-1
Office Systems	180	6	191	202	214	227	241	255	6
Planning and Analysis	340	13	384	415	448	484	523	565	8
Other Cross-Industry Sector	150	11	167	175	184	193	202	213	5
Total Cross-Industry Sectors	1,780	10	1,954	2,048	2,148	2,255	2,370	2,492	5
Total Application Software	4,400	11	4,869	5,216	5,592	6,005	6,447	6,932	7
Systems Software									
Application Development Tools	2,120	14	2,417	2,731	3,086	3,487	3,941	4,453	13
Systems Control	2,435	10	2,679	3,053	3,481	3,968	4,524	5,157	14
Data Center Management	1,410	25	1,763	2,027	2,331	2,681	3,083	3,545	15
Total Systems Software	5,965	15	6,858	7,811	8,898	10,136	11,547	13,155	14

EXHIBIT B-11

**Minicomputer Software
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Minicomputer Software Industry	8,360	17	9,742	11,109	12,665	14,459	16,532	18,971	14
Application Software									
Discrete Manufacturing	790	14	901	1,009	1,130	1,265	1,417	1,587	12
Process Manufacturing	245	15	280	325	355	390	430	495	12
Transportation	80	22	98	109	122	137	154	172	12
Utilities	60	13	68	75	82	90	99	109	10
Telecommunications	30	17	35	43	52	64	78	95	22
Wholesale Distribution	100	16	116	133	153	176	203	233	15
Retail Distribution	115	20	138	156	176	199	225	254	13
Banking & Finance	590	15	679	773	882	1,005	1,146	1,306	14
Insurance	100	18	118	130	143	157	173	190	10
Medical	230	15	265	291	320	352	387	426	10
Education	140	8	151	165	180	196	213	233	9
Services	130	17	152	170	191	214	239	268	12
Federal Government	130	15	150	167	188	210	235	288	14
State & Local Government	20	27	25	28	32	36	40	45	12
Other Industry Sector	100	15	115	128	142	157	175	194	11
Total Industry Sectors	2,860	15	3,291	3,702	4,148	4,648	5,214	5,895	12
Cross-Industry Sector									
Accounting	430	15	495	529	566	606	648	694	7
Education & Training	20	17	23	25	27	29	32	34	8
Engineering & Scientific	160	25	200	228	260	296	338	385	14
Human Resources	330	7	353	371	389	409	429	451	5
Office Systems	130	7	139	150	162	175	189	204	8
Planning and Analysis	280	15	322	351	383	417	455	495	9
Other Cross-Industry Sector	100	15	115	129	144	162	181	203	12
Total Cross-Industry Sectors	1,450	14	1,647	1,783	1,931	2,094	2,272	2,466	8
Total Application Software	4,310	15	4,938	5,485	6,079	6,742	7,486	8,361	11
Systems Software									
Application Development Tools	1,460	30	1,898	2,278	2,733	3,280	3,936	4,723	20
Systems Control	1,680	8	1,814	2,068	2,358	2,688	3,064	3,493	14
Data Center Management	910	20	1,092	1,278	1,495	1,749	2,046	2,394	17
Total Systems Software	4,050	19	4,804	5,624	6,586	7,717	9,046	10,610	17

EXHIBIT B-12

**Workstation/PC Software
User Expenditure Market Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Workstation/PC Software Industry	6,705	39	9,339	11,532	14,260	17,656	21,898	27,240	24
Application Software									
Discrete Manufacturing	280	27	356	448	565	711	896	1,129	26
Process Manufacturing	85	35	115	145	185	235	300	380	27
Transportation	70	44	101	126	158	197	246	308	25
Utilities	80	31	105	125	148	177	210	250	19
Telecommunications	30	28	38	48	60	75	94	117	25
Wholesale Distribution	80	32	106	135	173	221	283	363	28
Retail Distribution	70	35	95	113	136	163	196	235	20
Banking & Finance	310	47	456	561	689	848	1,043	1,283	23
Insurance	210	40	294	359	438	534	651	795	22
Medical	150	38	207	261	329	414	522	657	26
Education	295	18	348	397	452	516	588	670	14
Services	120	40	168	210	263	328	410	513	25
Federal Government	150	35	203	253	316	396	494	660	27
State & Local Government	30	36	41	50	62	76	93	115	23
Other Industry Sector	20	50	30	39	51	66	86	111	30
Total Industry Sectors	1,980	34	2,663	3,270	4,025	4,957	6,112	7,586	23
Cross-Industry Sector									
Accounting	455	40	637	771	933	1,128	1,365	1,652	21
Education & Training	90	35	122	146	175	210	252	302	20
Engineering & Scientific	130	40	182	228	284	355	444	555	25
Human Resources	90	50	135	170	214	270	340	429	26
Office Systems	930	30	1,209	1,463	1,770	2,142	2,592	3,136	21
Planning and Analysis	870	30	1,131	1,335	1,575	1,858	2,193	2,587	18
Other Cross-Industry Sector	80	40	112	137	167	203	248	303	22
Total Cross-Industry Sectors	2,645	33	3,528	4,250	5,118	6,166	7,434	8,964	21
Total Application Software	4,625	34	6,191	7,520	9,143	11,123	13,546	16,550	22
Systems Software									
Application Development Tools	1,070	50	1,605	2,022	2,548	3,211	4,045	5,097	26
Systems Control	870	38	1,201	1,513	1,906	2,402	3,026	3,813	26
Data Center Management	140	145	343	477	663	921	1,280	1,780	39
Total Systems Software	2,080	51	3,149	4,012	5,117	6,533	8,352	10,690	28

EXHIBIT B-13

**Systems Software
User Expenditure Forecast
by Software Type, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Systems Software Industry	12,095	22	14,811	17,447	20,601	24,386	28,945	34,455	18
Application Development Tools	4,650	27	5,920	7,031	8,367	9,978	11,922	14,273	19
Mainframe	2,120	14	2,417	2,731	3,086	3,487	3,941	4,453	13
Minicomputers	1,460	30	1,898	2,278	2,733	3,280	3,936	4,723	20
Workstation/PC	1,070	50	1,605	2,022	2,548	3,211	4,045	5,097	26
Systems Control	4,985	14	5,693	6,635	7,745	9,058	10,614	12,464	17
Mainframe	2,435	10	2,679	3,053	3,481	3,968	4,524	5,157	14
Minicomputers	1,680	8	1,814	2,068	2,358	2,688	3,064	3,493	14
Workstation/PC	870	38	1,201	1,513	1,906	2,402	3,026	3,813	26
Data Center Management	2,460	30	3,198	3,781	4,488	5,351	6,409	7,719	19
Mainframe	1,410	25	1,762	2,027	2,331	2,681	3,083	3,545	15
Minicomputers	910	20	1,092	1,278	1,495	1,749	2,046	2,394	17
Workstation/PC	140	145	343	477	663	921	1,280	1,780	39
Mainframe	5,965	15	6,858	7,811	8,898	10,136	11,547	13,155	14
Application Dev. Tools	2,120	14	2,417	2,731	3,086	3,487	3,941	4,453	13
Systems Control	2,435	10	2,679	3,053	3,481	3,968	4,524	5,157	14
Data Center Management	1,410	25	1,762	2,027	2,331	2,681	3,083	3,545	15
Minicomputer	4,050	19	4,804	5,624	6,586	7,717	9,046	10,610	17
Application Development Tools	1,460	30	1,898	2,278	2,733	3,280	3,936	4,723	20
Systems Control	1,680	8	1,814	2,068	2,358	2,688	3,064	3,493	14
Data Center Management	910	20	1,092	1,278	1,495	1,749	2,046	2,394	17
Workstation/PC	2,080	51	3,149	4,012	5,117	6,533	8,352	10,690	28
Application Dev. Tools	1,070	50	1,605	2,022	2,548	3,211	4,045	5,097	26
Systems Control	870	38	1,201	1,513	1,906	2,402	3,026	3,813	26
Data Center Management	140	145	343	477	663	921	1,280	1,780	39

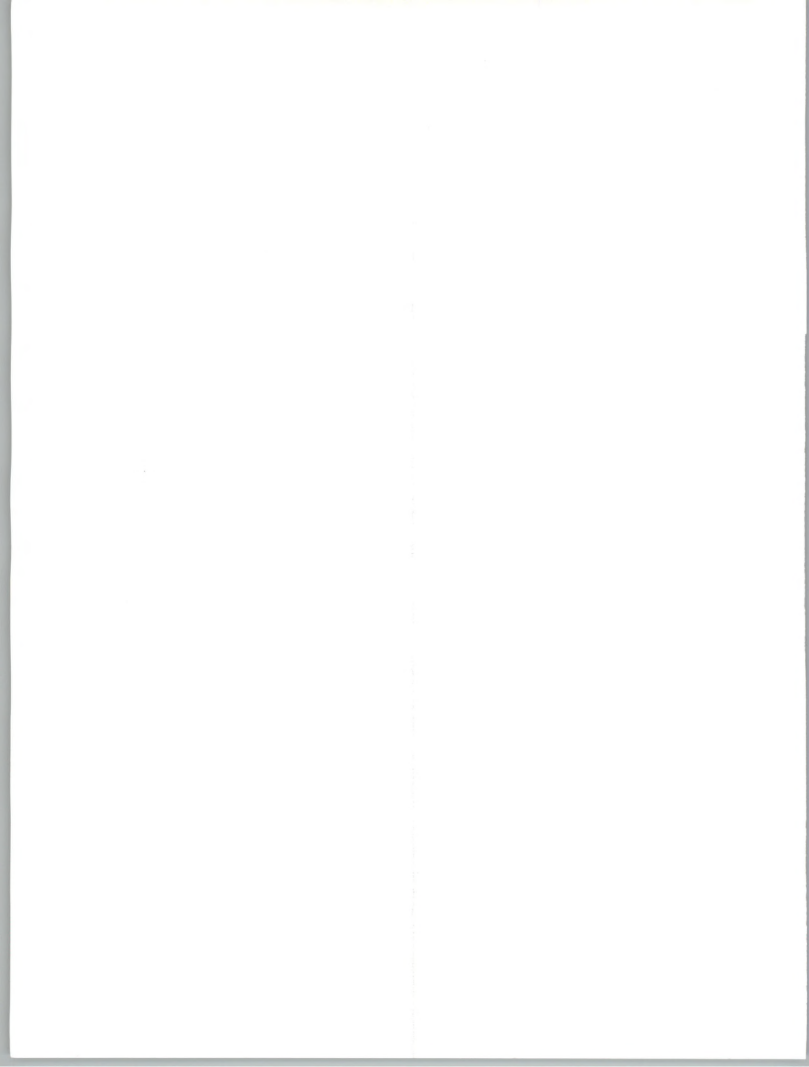


EXHIBIT B-14

**Turnkey Systems
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Turnkey Systems Industry	9,620	11	10,704	11,678	12,788	13,985	15,325	16,821	10
Discrete Manufacturing	2,000	12	2,240	2,464	2,710	2,981	3,279	3,608	10
Process Manufacturing	405	14	465	510	570	635	715	800	12
Transportation	160	10	175	193	212	233	256	284	10
Utilities	35	10	38	42	47	51	56	62	10
Telecommunications	270	18	319	364	415	473	539	614	14
Wholesale Distribution	365	14	416	458	503	554	609	670	10
Retail Distribution	635	12	711	775	845	921	1,004	1,095	9
Banking & Finance	780	11	865	952	1,047	1,151	1,266	1,393	10
Insurance	230	18	271	300	330	360	400	440	10
Medical	775	11	860	945	1,035	1,135	1,250	1,395	10
Education	180	9	196	196	229	247	267	288	8
Services	450	12	504	554	610	671	738	812	10
Federal Government	390	6	413	426	439	452	465	479	3
State & Local Government	120	12	134	151	169	189	211	237	12
Other Industry Sector	345	11	380	417	459	505	556	615	10
Total Industry Sectors	7,140	12	7,989	8,747	9,620	10,558	11,611	12,792	10
Cross-Industry Sector									
Accounting	400	3	412	424	437	450	464	478	3
Education & Training	150	7	160	167	174	181	188	197	4
Engineering & Scientific	330	14	376	421	472	528	592	663	12
Human Resources	110	7	118	124	130	136	143	150	5
Office Systems	850	13	961	1,067	1,184	1,314	1,459	1,619	11
Planning & Analysis	270	5	284	292	301	310	319	329	3
Other Cross-Industry Sector	370	9	403	436	470	508	549	593	8
Total Cross-Industry Sectors	2,480	9	2,715	2,931	3,168	3,427	3,714	4,029	8

EXHIBIT B-15

**Systems Integration
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Systems Integration Industry	4,801	21	5,797	7,159	8,878	10,920	13,655	17,090	24
Discrete Manufacturing	580	35	780	1,060	1,455	1,895	2,600	3,510	35
Process Manufacturing	100	24	133	160	188	234	275	330	20
Transportation	110	21	133	158	190	225	270	310	19
Utilities	170	30	220	280	370	470	610	785	29
Telecommunications	125	20	150	182	220	265	325	385	21
Wholesale Distribution	110	20	132	160	180	220	260	300	18
Retail Distribution	135	38	186	250	350	474	667	930	38
Banking & Finance	230	39	320	455	580	740	985	1,332	33
Insurance	125	30	165	215	285	360	475	610	30
Medical	160	26	210	260	320	400	490	610	24
Education	60	20	72	85	104	125	150	175	20
Services	30	31	39	50	64	85	100	134	28
Federal Government	2,420	18	2,710	3,172	3,728	4,383	5,145	6,047	18
State & Local Government	380	22	465	571	714	879	1,103	1,382	24
Other Industry Sector	66	24	82	100	130	165	200	250	25

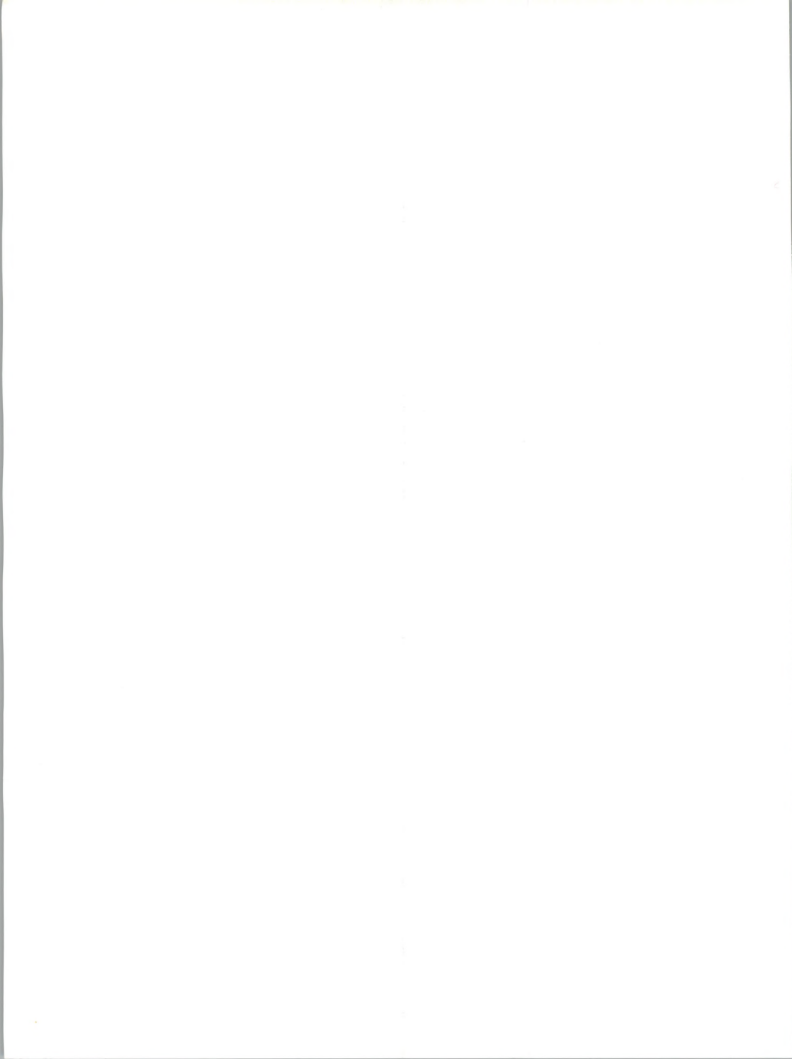


EXHIBIT B-16

**Professional Services
User Expenditure Forecast
by Industry Sector, 1989-1994
(\$ Millions)**

Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Professional Services Industry	15,020	17	17,558	20,013	22,829	26,062	29,780	34,051	14
Discrete Manufacturing	3,120	21	3,775	4,365	5,045	5,830	6,740	7,790	16
Process Manufacturing	1,490	22	1,818	2,127	2,488	2,911	3,406	3,985	17
Transportation	170	14	194	219	247	280	316	357	13
Utilities	410	10	451	510	576	651	735	831	13
Telecommunications	680	19	809	939	1,089	1,263	1,465	1,700	16
Wholesale Distribution	280	16	325	367	415	469	530	598	13
Retail Distribution	180	20	216	248	286	329	378	434	15
Banking & Finance	1,910	19	2,273	2,682	3,165	3,734	4,407	5,200	18
Insurance	1,200	15	1,380	1,573	1,793	2,045	2,331	2,657	14
Medical	300	15	345	379	417	459	505	556	10
Education	60	15	69	79	91	105	121	139	15
Services	120	14	137	153	172	192	215	241	12
Federal Government	2,910	12	3,259	3,520	3,802	4,106	4,434	4,789	8
State & Local Government	1,900	15	2,185	2,491	2,840	3,237	3,690	4,207	14
Other Industry Sector	290	11	322	361	404	452	507	567	12

Table 1. Mean (SD) age, height, weight, and body mass index (BMI) of the 100 children in the study

Measure	Mean (SD)
Age (years)	10.1 (0.5)
Height (cm)	145.2 (10.1)
Weight (kg)	38.5 (10.2)
BMI (kg m ⁻²)	18.6 (3.2)

children were asked to perform a series of 10 trials of the task. The first trial was a practice trial and the remaining nine trials were recorded. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as fast as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as slowly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as accurately as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as quickly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as slowly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as accurately as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as quickly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as slowly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as accurately as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as quickly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as slowly as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as accurately as they could. The mean of the last nine trials was used for analysis.

Children were then asked to perform the task again, but this time they were asked to perform the task as quickly as they could. The mean of the last nine trials was used for analysis.

EXHIBIT B-17

**Discrete Manufacturing Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Discrete Manufacturing Sector	7,930	17	9,312	10,718	12,409	14,298	16,742	19,632	16
Processing Services	805	7	865	930	1,010	1,060	1,180	1,290	8
-Transaction Processing Services	705	6	750	795	845	895	945	1,005	6
-Systems Operations	100	14	114	137	164	197	236	284	20
Network/Electronic Information Services	45	22	55	70	89	115	148	191	28
-Electronic Information Services	25	20	30	36	43	52	62	75	20
-Network Applications	20	25	25	34	46	63	86	116	36
Application Software Products	1,380	16	1,597	1,828	2,099	2,418	2,795	3,241	15
-Mainframe	310	10	341	372	405	442	481	525	9
-Minicomputer	790	14	901	1,009	1,130	1,265	1,417	1,587	12
-Workstation/PC	280	27	356	448	565	711	896	1,129	26
Turnkey Systems	2,000	12	2,240	2,465	2,710	2,980	3,280	3,610	10
Systems Integration	580	35	780	1,060	1,455	1,895	2,600	3,510	35
Professional Services	3,120	21	3,775	4,365	5,045	5,830	6,740	7,790	16

EXHIBIT B-18

**Process Manufacturing Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Process Manufacturing Sector	3,710	21	4,485	5,150	5,930	6,835	7,880	9,100	15
Processing Services	810	26	1,017	1,122	1,237	1,369	1,517	1,687	11
-Transaction Processing Services	610	5	640	680	720	765	810	860	6
-Systems Operations	200	88	377	442	517	604	707	827	17
Network/Electronic Information Services	500	19	595	697	819	965	1,141	1,355	18
-Electronic Information Services	450	18	531	611	702	808	929	1,068	15
-Network Applications	50	28	64	86	117	157	213	287	35
Application Software Products	405	20	470	550	630	725	830	965	15
-Mainframe	130	12	145	155	170	180	195	215	8
-Minicomputer	160	13	180	205	225	255	280	310	11
-Workstation/PC	115	26	145	190	235	290	355	440	23
Turnkey Systems	405	12	455	510	570	635	715	800	12
Systems Integration	100	24	133	160	188	234	275	330	20
Professional Services	1,490	22	1,818	2,127	2,488	2,911	3,406	3,985	17

EXHIBIT B-19

**Transportation Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Transportation Sector	2,370	15	2,720	3,121	3,580	4,119	4,741	5,460	15
Processing Services	1,560	12	1,750	1,994	2,272	2,588	2,950	3,361	14
-Transaction Processing Services	1,520	12	1,702	1,941	2,212	2,522	2,875	3,278	14
-Systems Operations	40	18	47	53	59	66	74	83	12
Network/Electronic Information Services	110	28	141	179	228	290	369	470	27
-Electronic Information Services	90	27	114	144	181	229	288	363	26
-Network Applications	20	33	27	35	46	61	81	107	32
Application Software Products	260	26	327	376	433	501	581	678	16
-Mainframe	110	17	129	140	153	167	182	198	9
-Minicomputer	80	22	98	109	122	137	154	172	12
-Workstation/PC	70	44	101	126	158	197	246	308	25
Turnkey Systems	160	10	175	195	210	235	255	285	10
Systems Integration	110	21	133	158	190	225	270	310	19
Professional Services	170	14	194	219	247	280	316	357	13

EXHIBIT B-20

**Utilities Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Utilities Sector	955	17	1,113	1,290	1,519	1,778	2,100	2,484	17
Processing Services	90	11	100	110	121	134	149	165	11
-Transaction Processing Services	60	10	66	71	77	83	90	97	8
-Systems Operations	30	12	34	39	44	51	59	68	15
Network/Electronic Information Services	70	21	85	102	123	149	180	217	21
-Electronic Information Services	40	20	48	57	67	79	93	110	18
-Network Applications	30	22	37	45	56	70	87	107	24
Application Software Products	180	21	218	249	284	324	371	426	14
-Mainframe	40	14	46	49	53	57	62	67	8
-Minicomputer	60	13	68	75	82	90	99	109	10
-Workstation/PC	80	31	105	125	148	177	210	250	19
Turnkey Systems	35	10	40	40	45	50	55	60	10
Systems Integration	170	30	220	280	370	470	610	785	29
Professional Services	410	10	451	510	576	651	735	831	13

Table 1. Mean (SD) age, height, weight, and body mass index (BMI) of the 100 children in the study

Measure	Mean (SD)
Age (years)	10.5 (0.5)
Height (cm)	145.5 (10.5)
Weight (kg)	38.5 (10.5)
BMI (kg m ⁻²)	18.5 (3.5)

children were asked to perform a series of tasks designed to assess their ability to perform a range of activities. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

The tasks were performed in a random order and the children were asked to perform each task as well as they could. The tasks were performed in a random order and the children were asked to perform each task as well as they could.

EXHIBIT B-21

**Telecommunications Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Telecommunications Sector	1,830	19	2,172	2,525	2,937	3,421	3,989	4,723	17
Processing Services	560	17	656	755	869	1,000	1,151	1,324	15
-Transaction Processing Services	525	16	609	700	805	926	1,065	1,225	15
-Systems Operations	35	35	47	55	64	74	86	99	16
Network/Electronic Information Services	40	27	51	66	85	109	141	181	29
-Electronic Information Services	30	30	39	51	66	86	111	145	30
-Network Applications	10	20	12	15	19	23	29	37	25
Application Software Products	155	20	186	220	260	309	368	438	19
-Mainframe	95	18	112	129	148	170	196	225	15
-Minicomputer	30	17	35	43	52	64	78	95	22
-Workstation/PC	30	28	38	48	60	75	94	117	25
Turnkey Systems	270	18	320	365	415	475	540	695	14
Systems Integration	125	20	150	181	219	265	325	385	21
Professional Services	680	19	809	939	1,089	1,263	1,465	1,700	16

The first part of the paper discusses the importance of understanding the cultural context of the research. It highlights the need for researchers to be sensitive to the values and beliefs of the communities they are studying. This is particularly important in the field of education, where cultural differences can significantly impact learning outcomes. The paper then moves on to discuss the challenges of conducting research in diverse cultural settings. It notes that researchers often face difficulties in establishing rapport with participants and in interpreting their responses. To address these challenges, the paper suggests several strategies, including the use of local researchers and the development of culturally appropriate research instruments. The final part of the paper discusses the importance of ethical considerations in cross-cultural research. It emphasizes the need for researchers to obtain informed consent from participants and to ensure that their research does not cause harm to the communities they are studying.

EXHIBIT B-22

**Wholesale Distribution Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Wholesale Distribution Sector	1,615	15	1,858	2,126	2,423	2,792	3,224	3,734	15
Processing Services	330	8	356	395	438	487	543	605	11
-Transaction Processing Services	270	7	289	315	343	374	408	445	9
-Systems Operations	60	12	67	80	95	113	135	160	19
Network/Electronic Information Services	140	27	178	228	294	380	493	641	29
-Electronic Information Services	40	19	48	55	64	74	86	100	16
-Network Applications	100	30	130	173	230	306	407	541	33
Application Software Products	390	16	453	516	591	681	789	920	15
-Mainframe	210	10	231	247	264	283	303	324	7
-Minicomputer	100	16	116	133	153	176	203	233	15
-Workstation/PC	80	32	106	135	173	221	283	363	28
Turnkey Systems	365	14	415	460	505	555	610	670	10
Systems Integration	110	20	132	160	180	220	260	300	18
Professional Services	280	16	325	367	415	469	530	598	13

EXHIBIT B-23

**Retail Distribution Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Retail Distribution Sector	1,405	19	1,670	1,920	2,231	2,596	3,069	3,653	17
Processing Services	135	14	154	172	192	215	242	272	12
-Transaction Processing Services	120	15	138	152	167	184	202	222	10
-Systems Operations	15	8	16	20	25	32	40	49	25
Network/Electronic Information Services	95	32	125	154	190	235	290	358	23
-Electronic Information Services	70	36	95	115	139	169	204	247	21
-Network Applications	25	20	30	39	51	66	86	111	30
Application Software Products	225	24	279	320	368	424	488	563	15
-Mainframe	40	15	46	51	56	61	67	74	10
-Minicomputer	115	20	138	156	176	199	225	254	13
-Workstation/PC	70	35	95	113	136	163	196	235	20
Turnkey Systems	635	12	710	775	845	920	1,005	1,095	9
Systems Integration	135	38	186	250	350	474	667	930	38
Professional Services	180	20	216	248	286	329	378	434	15

EXHIBIT B-24

**Banking and Finance Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Banking and Finance Sector	8,930	19	10,548	12,239	14,177	16,453	19,172	22,422	16
Processing Services	3,790	16	4,395	5,008	5,709	6,508	7,420	8,462	14
-Transaction Processing Services	2,590	15	2,978	3,366	3,803	4,298	4,856	5,488	13
-Systems Operations	1,200	18	1,416	1,643	1,905	2,210	2,564	2,974	16
Network/Electronic Information Services	470	33	627	781	976	1,223	1,537	1,938	25
-Electronic Information Services	400	34	536	654	798	973	1,187	1,449	22
-Network Applications	70	30	91	127	178	250	350	489	40
Application Software Products	1,750	18	2,069	2,363	2,703	3,098	3,558	4,095	15
-Mainframe	850	10	935	1,029	1,131	1,244	1,369	1,506	10
-Minicomputer	590	15	679	773	882	1,005	1,146	1,306	14
-Workstation/PC	310	47	456	561	689	848	1,043	1,283	23
Turnkey Systems	780	11	865	950	1,045	1,150	1,265	1,395	10
Systems Integration	230	39	320	455	580	740	985	1,332	33
Professional Services	1,910	19	2,273	2,682	3,165	3,734	4,407	5,200	18

EXHIBIT B-25

**Insurance Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Insurance Sector	3,110	17	3,640	4,214	4,891	5,672	6,620	7,727	16
Processing Services	825	13	929	1,096	1,296	1,536	1,823	2,170	18
-Transaction Processing Services	280	12	314	345	379	417	459	505	10
-Systems Operations	545	13	616	751	917	1,118	1,364	1,664	22
Network/Electronic Information Services	160	19	190	223	263	310	367	434	18
-Electronic Information Services	120	17	140	161	186	214	246	282	15
-Network Applications	40	24	50	62	78	97	121	151	25
Application Software Products	570	24	706	806	923	1,061	1,224	1,416	15
-Mainframe	260	13	294	317	343	370	400	432	8
-Minicomputer	100	18	118	130	143	157	173	190	10
-Workstation/PC	210	40	294	359	438	534	651	795	22
Turnkey Systems	230	18	270	300	330	360	400	440	10
Systems Integration	125	30	165	215	285	360	475	610	30
Professional Services	1,200	15	1,380	1,573	1,793	2,045	2,331	2,657	14

EXHIBIT B-26

**Medical Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Medical Sector	3,275	16	3,808	4,286	4,840	5,488	6,240	7,125	13
Processing Services	975	14	1,114	1,234	1,369	1,521	1,695	1,891	11
-Transaction Processing Services	425	6	476	500	525	551	579	608	5
-Systems Operations	550	16	635	725	835	960	1,105	1,270	15
Network/Electronic Information Services	395	24	489	580	690	822	980	1,172	19
-Electronic Information Services	250	23	308	354	407	468	538	618	15
-Network Applications	145	25	181	227	283	354	443	553	25
Application Software Products	670	18	793	896	1,017	1,160	1,331	1,535	14
-Mainframe	290	11	322	344	369	394	422	451	7
-Minicomputer	230	15	265	291	320	352	387	426	10
-Workstation/PC	150	38	207	261	329	414	522	657	26
Turnkey Systems	775	11	860	945	1,035	1,135	1,250	1,375	10
Systems Integration	160	26	210	260	320	400	490	610	24
Professional Services	300	15	345	380	417	459	505	556	10

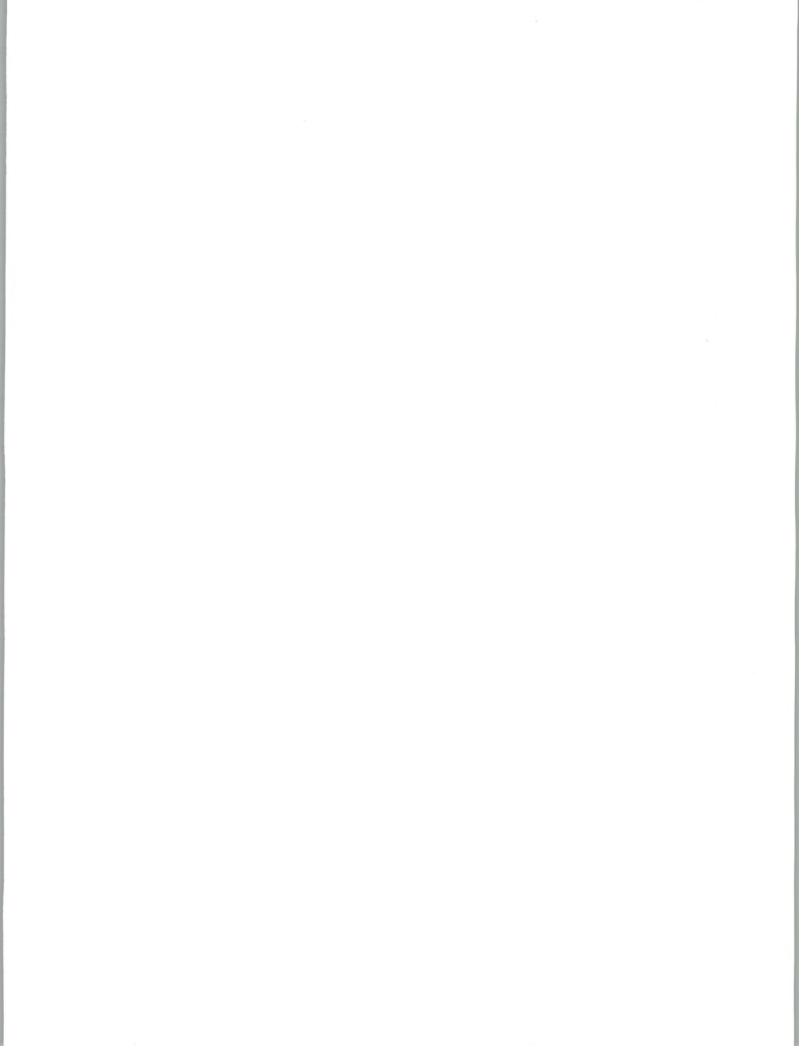


EXHIBIT B-27

**Education Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Education Sector	1,150	12	1,288	1,431	1,606	1,793	2,007	2,262	12
Processing Services	230	3	238	250	265	275	290	305	5
-Transaction Processing Services	160	3	165	170	175	180	185	190	3
-Systems Operations	70	4	73	80	88	97	107	117	10
Network/Electronic Information Services	115	15	132	155	181	212	248	291	17
-Electronic Information Services	70	15	81	93	106	122	141	162	15
-Network Applications	45	15	52	62	75	89	107	129	20
Application Software Products	505	13	572	637	709	791	883	987	12
-Mainframe	70	4	73	75	77	80	82	84	3
-Minicomputer	140	8	151	165	180	196	213	233	9
-Workstation/PC	295	18	348	397	452	516	588	670	14
Turnkey Systems	180	9	195	210	230	245	265	290	8
Systems Integration	60	20	82	100	130	165	200	250	20
Professional Services	60	15	69	79	91	105	121	139	15

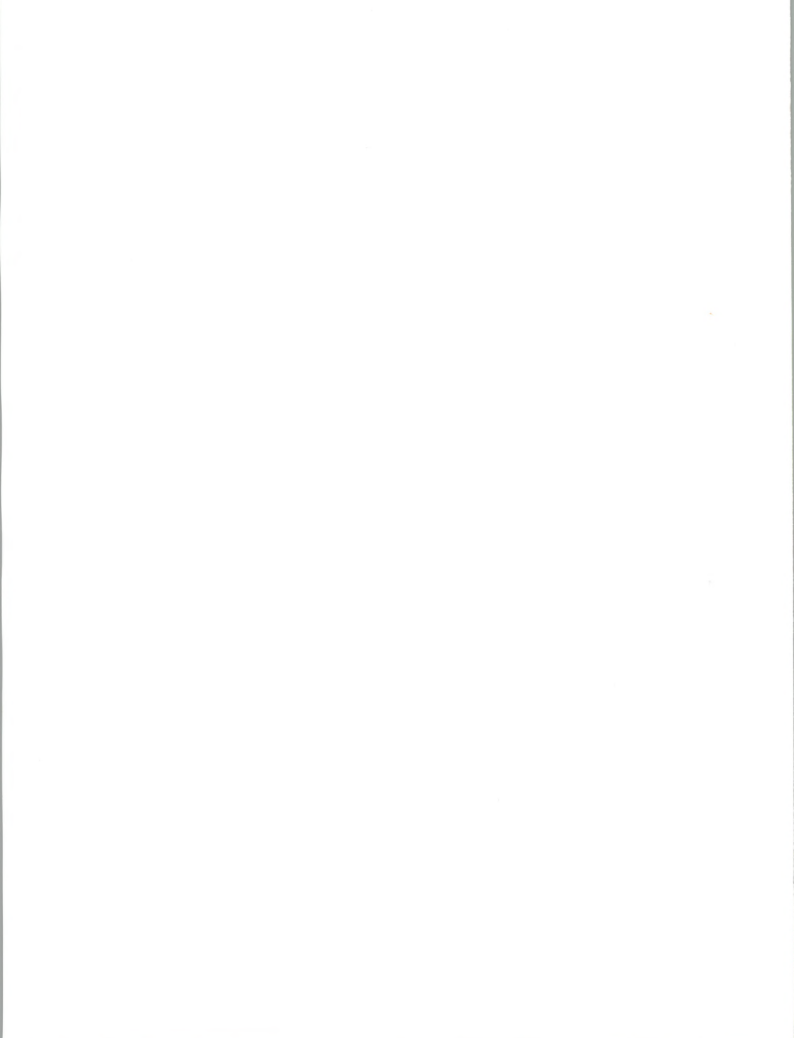


EXHIBIT B-28

**Services Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Services Sector	2,000	16	2,318	2,613	2,956	3,358	3,823	4,376	14
Processing Services	680	13	770	825	885	949	1,018	1,093	7
-Transaction Processing Services	670	13	757	810	867	927	992	1,062	7
-Systems Operations	10	25	13	15	18	22	26	31	20
Network/Electronic Information Services	380	18	448	544	661	802	975	1,185	21
-Electronic Information Services	370	18	437	528	639	773	936	1,132	21
-Network Applications	10	17	12	16	21	29	39	52	35
Application Software Products	340	23	419	485	565	660	774	913	17
-Mainframe	90	10	99	105	111	118	125	132	6
-Minicomputer	130	17	152	170	191	214	239	268	12
-Workstation/PC	120	40	168	210	263	328	410	513	25
Turnkey Systems	450	12	505	555	610	670	740	810	10
Systems Integration	30	31	39	50	64	85	100	134	28
Professional Services	120	14	137	153	172	192	215	241	12

EXHIBIT B-29

**Federal Government Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Federal Government Sector	7,415	13	8,384	9,339	10,450	11,717	13,166	14,905	12
Processing Services	460	9	499	542	591	649	717	797	10
-Transaction Processing Services	245	2	250	250	250	250	250	250	0
-Systems Operations	215	16	249	292	341	399	467	547	17
Network/Electronic Information Services	850	21	1,032	1,135	1,249	1,376	1,516	1,673	10
-Electronic Information Services	240	25	300	315	331	347	365	383	5
-Network Applications	610	20	732	820	918	1,028	1,152	1,290	12
Application Software Products	385	22	469	546	640	753	888	1,119	19
-Mainframe	105	11	117	126	136	147	159	171	8
-Minicomputer	130	15	150	167	188	210	235	288	14
-Workstation/PC	150	35	203	253	316	396	494	660	27
Turnkey Systems	390	6	415	425	440	450	465	480	3
Systems Integration	2,420	18	2,710	3,172	3,728	4,383	5,145	6,047	18
Professional Services	2,910	12	3,259	3,520	3,802	4,106	4,434	4,789	8

the 'information' and 'communication' fields. The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'information' field is defined as:

...the study of the processes of information production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

The 'communication' field is defined as:

...the study of the processes of communication production, distribution, access, use and evaluation, and the study of the social, cultural, economic and political contexts in which these processes take place. (p. 10)

EXHIBIT B-30

**State and Local Government Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total State and Local Government Sector	3,280	16	3,803	4,428	5,180	6,055	7,107	8,359	17
Processing Services	740	13	839	1,006	1,210	1,456	1,756	2,121	20
-Transaction Processing Services	190	20	228	255	286	320	359	402	12
-Systems Operations	550	11	611	751	924	1,136	1,397	1,719	23
Network/Electronic Information Services	50	27	64	78	97	120	149	186	24
-Electronic Information Services	25	32	33	39	45	53	62	72	17
-Network Applications	25	22	31	40	52	67	87	113	30
Application Software Products	90	29	116	132	150	172	198	229	15
-Mainframe	40	24	50	53	57	61	65	70	7
-Minicomputer	20	27	25	28	32	36	40	45	12
-Workstation/PC	30	36	41	50	62	76	93	115	23
Turnkey Systems	120	12	135	150	170	190	210	235	12
Systems Integration	380	22	465	571	714	879	1,103	1,382	24
Professional Services	1,900	15	2,185	2,491	2,840	3,237	3,690	4,207	14

EXHIBIT B-31

**Other Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Other Industry Sector	1,516	12	1,699	1,902	2,148	2,424	2,736	3,110	13
Processing Services	595	10	655	723	799	883	976	1,080	11
-Transaction Processing Services	580	10	638	702	772	849	934	1,028	10
-Systems Operations	15	15	17	22	27	34	42	53	25
Network/Electronic Information Services	60	12	67	85	107	136	174	222	27
-Electronic Information Services	20	15	23	26	30	34	39	44	14
-Network Applications	40	11	44	59	77	102	135	178	32
Application Software Products	160	20	193	218	248	283	325	375	14
-Mainframe	40	19	48	51	56	60	65	70	8
-Minicomputer	100	15	115	128	142	157	175	194	11
-Workstation/PC	20	50	30	39	51	66	86	111	30
Turnkey Systems	345	11	380	415	460	505	555	615	10
Systems Integration	66	24	82	100	130	165	200	250	25
Professional Services	290	11	322	361	404	452	507	567	12

EXHIBIT B-32

**Accounting Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Accounting Sector	2,905	12	3,264	3,513	3,790	4,112	4,480	4,904	8
Processing Services	990	4	1,030	1,060	1,092	1,125	1,159	1,194	3
-Transaction Processing Services	990	4	1,030	1,060	1,092	1,125	1,159	1,194	3
Application Software Products	1,515	20	1,825	2,028	2,263	2,537	2,856	3,230	12
-Mainframe	630	10	693	728	764	802	842	884	5
-Minicomputer	430	15	495	529	566	606	648	694	7
-Workstation/PC	455	40	637	771	933	1,128	1,365	1,652	21
Turnkey Systems	400	3	410	425	435	450	465	480	3

EXHIBIT B-33

**Education and Training Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1989	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Education & Training Sector	380	14	435	472	514	563	620	686	10
Processing Services	90	3	93	95	96	98	100	102	2
-Transaction Processing Services	90	3	93	95	96	98	100	102	2
Application Software Products	140	30	182	210	244	284	332	388	16
-Mainframe	30	22	37	39	42	45	48	51	7
-Minicomputer	20	17	23	25	27	29	32	34	8
-Workstation/PC	90	35	121	146	175	210	252	302	20
Turnkey Systems	150	7	160	165	175	180	190	195	4

EXHIBIT B-34

**Engineering and Scientific Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Engineering & Scientific Sector	845	18	1,001	1,134	1,289	1,473	1,681	1,934	14
Processing Services	115	3	118	123	128	133	139	144	4
-Transaction Processing Services	115	3	118	123	128	133	139	144	4
Application Software Products	400	27	507	591	691	810	953	1,125	17
-Mainframe	110	14	125	135	146	158	171	184	8
-Minicomputer	160	25	200	228	260	296	338	385	14
-Workstation/PC	130	40	182	228	284	355	444	555	25
Turnkey Systems	330	14	375	420	470	530	590	665	12

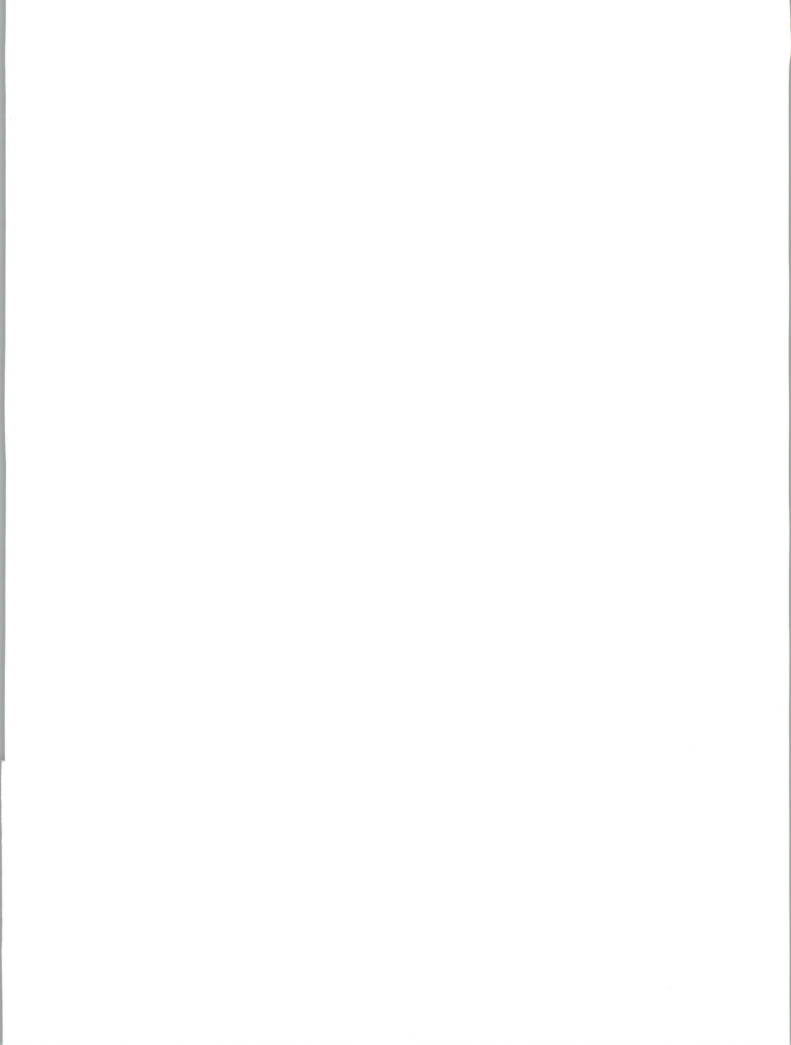


EXHIBIT B-35

**Human Resources Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Human Resources Sector	2,065	13	2,325	2,544	2,794	3,070	3,392	3,764	10
Processing Services	1,195	14	1,360	1,525	1,710	1,910	2,135	2,395	12
-Transaction Processing Services	1,195	14	1,360	1,525	1,710	1,910	2,135	2,395	12
Application Software Products	760	11	845	894	954	1,025	1,112	1,219	8
-Mainframe	340	5	357	353	350	346	343	340	-1
-Minicomputer	330	7	353	371	389	409	429	451	5
-Workstation/PC	90	50	135	170	214	270	340	429	26
Turnkey Systems	110	7	120	125	130	135	145	150	5

the 1990s, the number of people in the UK with a long-term condition has increased by 50% (Department of Health 1999). The prevalence of long-term conditions is expected to increase further as the population ages (Department of Health 1999).

Long-term conditions are those that are chronic, recurrent or progressive, and are not curable or preventable (Department of Health 1999). They are often associated with a high risk of disability and premature death. Long-term conditions are often managed by a range of health professionals, including general practitioners, nurses, pharmacists, physiotherapists, dietitians, and health psychologists. The management of long-term conditions is often complex and requires a coordinated approach (Department of Health 1999).

Health psychologists play a key role in the management of long-term conditions. They work with patients to help them understand their condition, manage their symptoms, and make lifestyle changes that can improve their health. Health psychologists also work with health professionals to develop and implement interventions that can help patients manage their condition. Health psychologists may also be involved in research into the management of long-term conditions.

There are a number of ways in which health psychologists can help patients manage their long-term conditions. They can provide education and information about the condition and its management. They can provide emotional support and help patients cope with the psychological impact of the condition. They can help patients develop self-management skills and make lifestyle changes that can improve their health. They can also work with health professionals to develop and implement interventions that can help patients manage their condition.

Health psychologists can also play a role in the prevention of long-term conditions. They can help people understand the risk factors for long-term conditions and encourage them to adopt a healthy lifestyle. They can also help people develop coping strategies for dealing with stress, which is a risk factor for many long-term conditions. Health psychologists may also be involved in research into the prevention of long-term conditions.

There are a number of challenges facing health psychologists in the management of long-term conditions. One challenge is the increasing prevalence of long-term conditions. Another challenge is the increasing complexity of long-term conditions. Health psychologists also face challenges in terms of funding and resources. Despite these challenges, health psychologists continue to play a key role in the management of long-term conditions.

There are a number of ways in which the role of health psychologists can be improved. One way is to increase the funding and resources available to health psychologists. Another way is to improve the training and education of health psychologists. Health psychologists should also be encouraged to work in a multidisciplinary team with other health professionals. Finally, health psychologists should be encouraged to engage with the public and help them understand the importance of managing long-term conditions.

In conclusion, health psychologists play a key role in the management of long-term conditions. They can help patients understand their condition, manage their symptoms, and make lifestyle changes that can improve their health. Health psychologists also work with health professionals to develop and implement interventions that can help patients manage their condition.

EXHIBIT B-36

**Office Systems Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Office Systems Sector	2,130	19	2,538	2,918	3,368	3,894	4,515	5,248	16
Processing Services	40	-2	39	38	36	35	33	32	-4
-Transaction Processing Services	40	-2	39	38	36	35	33	32	-4
Application Software Products	1,240	24	1,539	1,815	2,147	2,544	3,022	3,596	18
-Mainframe	180	6	191	202	214	227	241	255	6
-Minicomputer	130	7	139	150	162	175	189	204	8
-Workstation/PC	930	30	1,209	1,463	1,770	2,142	2,592	3,136	21
Turnkey Systems	850	13	960	1,065	1,185	1,315	1,460	1,620	11

EXHIBIT B-37

**Planning and Analysis Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Planning and Analysis Sector	1,980	18	2,336	2,597	2,901	3,254	3,665	4,143	12
Processing Services	220	-2	216	205	195	185	176	167	-5
-Transaction Processing Services	220	-2	216	205	195	185	176	167	-5
Application Software Products	1,490	23	1,837	2,100	2,406	2,759	3,170	3,647	15
-Mainframe	340	13	384	415	448	484	523	565	8
-Minicomputer	280	15	322	351	383	417	455	495	9
-Workstation/PC	870	30	1,131	1,335	1,575	1,858	2,193	2,587	18
Turnkey Systems	270	5	285	290	300	310	320	330	3

the 1990s, the number of people with a diagnosis of schizophrenia has increased in the United Kingdom (Meltzer 1996). The prevalence of schizophrenia in the United Kingdom is estimated to be 1.2% (Meltzer 1996).

There is a growing awareness of the need to improve the lives of people with mental health problems. The United Kingdom has a number of government departments and agencies that are responsible for the care of people with mental health problems. The Department of Health is responsible for the overall policy and strategy for mental health care. The Department of Social Security is responsible for the provision of social security benefits to people with mental health problems. The Department of the Environment is responsible for the provision of housing and other services to people with mental health problems. The Department of Transport is responsible for the provision of transport services to people with mental health problems.

The Department of Health has a number of initiatives aimed at improving the lives of people with mental health problems. The Mental Health Act 1983 was amended in 1995 to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care.

The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care.

The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care.

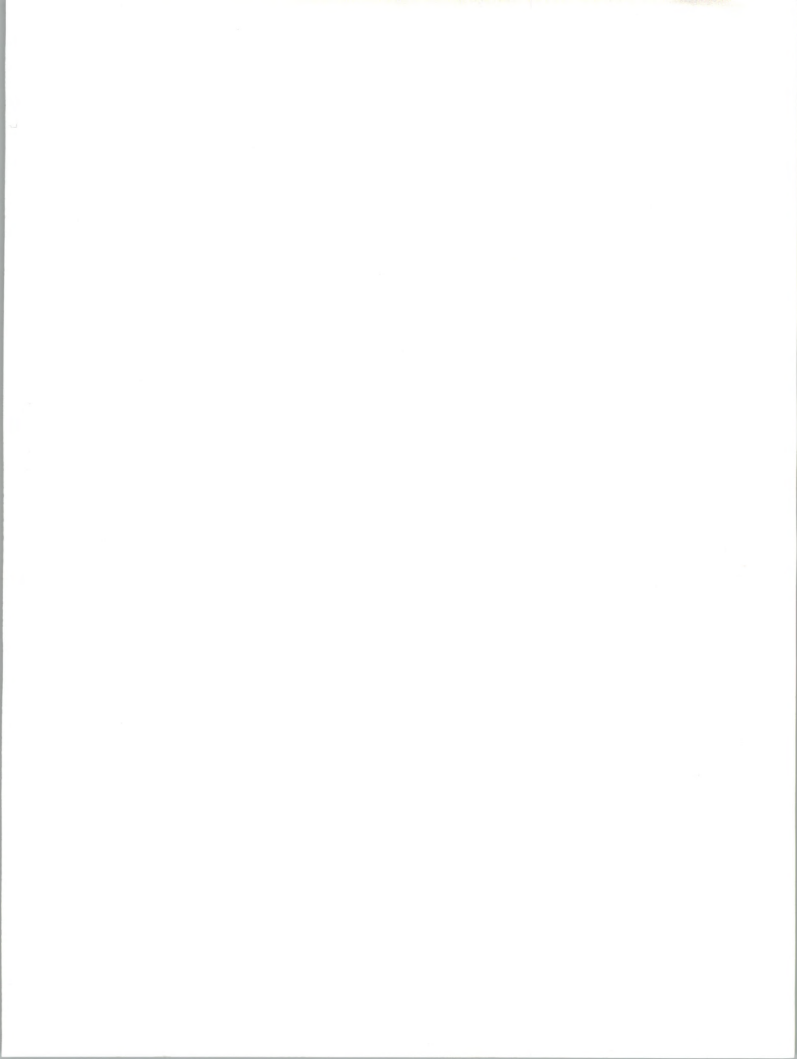
The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care.

The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care. The Mental Health Act 1995 was introduced to give people with mental health problems more control over their own care.

EXHIBIT B-38

**Other Cross-Industry Sector
User Expenditure Forecast
by Delivery Mode, 1989-1994
(\$ Millions)**

Sector by Delivery Mode	1988	Growth 88-89 (%)	1989	1990	1991	1992	1993	1994	CAGR 89-94 (%)
Total Other Cross- Industry Sector	1,130	14	1,289	1,405	1,536	1,685	1,848	2,033	10
Processing Services	430	14	490	529	572	618	667	720	8
-Transaction Processing Services	430	14	490	529	572	618	667	720	8
Application Software Products	330	19	394	440	495	558	631	718	13
-Mainframe	150	11	167	175	184	193	202	213	5
-Minicomputer	100	15	115	129	144	162	181	203	12
-Workstation/PC	80	40	112	137	167	203	248	303	22
Turnkey Systems	370	9	405	435	470	510	550	595	8



About INPUT

INPUT provides planning information, analysis, and recommendations to managers and executives in the information processing industries. Through market research, technology forecasting, and competitive analysis, INPUT supports client management in making informed decisions.

Continuous-information advisory services, proprietary research/consulting, merger/acquisition assistance, and multiclient studies are provided to users and vendors of information systems and services (software, processing services, turnkey systems, systems integration, professional services, communications, systems/software maintenance and support).

Many of INPUT's professional staff members have more than 20 years' experience in their areas of specialization. Most have held senior management positions in operations, marketing, or planning. This expertise enables INPUT to supply practical solutions to complex business problems.

Formed as a privately held corporation in 1974, INPUT has become a leading international research and consulting firm. Clients include more than 100 of the world's largest and most technically advanced companies.

INPUT OFFICES

North America

Headquarters

1280 Villa Street
Mountain View, CA 94041-1194
(415) 961-3300
Telex 171407 Fax (415) 961-3966

New York

959 Route 46 East, Suite 201
Parsippany, NJ 07054
(201) 299-6999
Telex 134630 Fax (201) 263-8341

Washington, D.C.

1953 Gallows Road, Suite 560
Vienna, VA 22182
(703) 847-6870 Fax (703) 847-6872

International

Europe

Piccadilly House
33/37 Regent Street
London SW1Y 4NF, England
(01) 493-9335
Telex 27113 Fax (01) 629-0179

Paris

52, boulevard de Sébastopol
75003 Paris, France
(33-1) 42 77 42 77 Fax (33-1) 42 77 85 82

Tokyo

Saida Building
4-6, Kanda Sakuma-cho
Chiyoda-ku, Tokyo 101, Japan
(03) 864-0531 Fax (03) 864-4114

Table 1. Mean (SD) age, height, weight, and body mass index (BMI) of the 100 children in the study

Measure	Mean (SD)
Age (years)	10.1 (0.5)
Height (cm)	145.2 (10.1)
Weight (kg)	40.1 (10.2)
BMI (kg m ⁻²)	19.3 (3.2)

children were asked to perform a series of 10 trials of the task. The first trial was a practice trial and the remaining 9 trials were recorded. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 100 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 100 cm task, they were asked to perform the 150 cm task. The children were asked to perform the task again, this time with the target placed at the 150 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 200 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 200 cm task, they were asked to perform the 250 cm task. The children were asked to perform the task again, this time with the target placed at the 250 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 300 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 300 cm task, they were asked to perform the 350 cm task. The children were asked to perform the task again, this time with the target placed at the 350 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 400 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 400 cm task, they were asked to perform the 450 cm task. The children were asked to perform the task again, this time with the target placed at the 450 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 500 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 500 cm task, they were asked to perform the 550 cm task. The children were asked to perform the task again, this time with the target placed at the 550 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 600 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 600 cm task, they were asked to perform the 650 cm task. The children were asked to perform the task again, this time with the target placed at the 650 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 700 cm distance. The mean of the last 9 trials was used for analysis.

After the children had completed the 700 cm task, they were asked to perform the 750 cm task. The children were asked to perform the task again, this time with the target placed at the 750 cm distance. The mean of the last 9 trials was used for analysis. The children were then asked to perform the task again, this time with the target placed at the 800 cm distance. The mean of the last 9 trials was used for analysis.